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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,930	09/24/2003	Michael D. Gallant	03-0838 1496.00329	4636

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LSI CORPORATION  
1621 BARBER LANE  
MS: D-106  
MILPITAS, CA 95035

EXAMINER

PHILIPPE, GIMS S

ART UNIT	PAPER NUMBER
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2621

MAIL DATE	DELIVERY MODE
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08/16/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/669,930

**Applicant(s)**

GALLANT ET AL.

**Examiner**

Gims S. Philippe

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6, 7, 11-17 and 20-25 is/are pending in the application..
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 9, 11-17 and 20 is/are rejected.
- 7) ☒ Claim(s) 21-25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

1. Applicant's amendment received on June 4<sup>th</sup> 2006, in which claims 1-4, 6-7, 11-17, and 20-25 were amended, claims 5, 8, 10, 18, and 19 were canceled, and claims 21-25 were added, has been fully considered and entered, but the arguments are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-7, 9, 11, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata (US Patent no. 6,198,771) in view of Matsumura et al. (US Patent no. 6,125,144).

Regarding claims 1, 11 and 20, Iwata discloses the same circuit, method and apparatus comprising a first circuit configured to generate a plurality of difference values by calculating an absolute difference between each pixel from a current block and a corresponding pixel from a reference block substantially simultaneously (See Iwata fig. 7, item 90-91, col. 9, lines 59-67, and col. 10, lines 1-4); a second circuit configured to

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generate a plurality of sum values by adding said difference values (See Iwata col. 10, lines 4-8).

It is noted that Iwata is silent about a circuit which generate a mode signal identifying a best mode among at least four partition modes, a motion signal conveying at least one motion vector associated with the best mode, and a score signal conveying a score value associated with the best mode all in response to the sum values.

However, Matsumura discloses a circuit which generate a mode signal identifying a best mode among at least four partition modes (See col. 2, lines 55-60, col. 4, lines 38-43), a motion signal conveying at least one motion vector associated with the best mode (See col. 5, lines 14-20), and a score signal conveying a score value associated with the best mode all in response to the sum values (See col. 6, lines 5-27).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Iwata's third circuit by providing a mode signal identifying a best mode among at least four partition modes, a motion signal conveying at least one motion vector associated with the best mode, and a score signal conveying a score value associated with the best mode all in response to the sum values. The motivation for providing such a modification in Iwata is to improve the refreshment function in order to prevent a decoding error from affecting a plurality of continuous pictures as taught by Matsumura (See Matsumura col. 1, lines 6-9).

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As per claim 2, most of the limitations of this claim have been noted in the above rejection of claim 1. In addition, Iwata further provides a first circuit comprising a plurality of processing elements each configured to generate one of the difference values (See Iwata fig. 7, processing elements 90-93 and col. 9, lines 59-64).

As per claim 3, most of the limitations of this claim have been noted in the above rejection of claim 1. In addition, Iwata further provides the processing elements logically configured as two-dimensional array receiving the pixels from the current block and the reference block on a first side of the array and presenting the difference values on a second side of the array (See Iwata col. 10, lines 47-52).

As per claim 4, most of the limitations of this claim have been noted in the above rejection of claim 1. In addition, Iwata further provides a second circuit comprising a plurality of adder circuits each configured to generate one of the sum values substantially simultaneously (See Iwata fig. 11, col. 14, lines 52-67, and col. 15, lines 1-9).

As per claim 6-7 and 9, most of the limitations of these claims have been noted in the above rejection of claim 1. In addition, Iwata further discloses the same circuit wherein the third circuit comprises an adder circuit configured to generate a plurality of first intermediate values from said sum values; a storage circuit configured to generate a plurality of second intermediate values from said first intermediate values as said

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current block is moved through a search window; and a select circuit configured to generate said motion vector from said second intermediate values (See Iwata col. 4, lines 25-60).

4. Claims 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata (US Patent no. 6198771).

As per claims 12-19, most of the limitations of these claims have been noted in the above rejection of claim 1, 11 and 20.

It is noted that while Iwata does not specifically disclose the same claim language as noted in claims 12-19, however, the disclosure provided for figs. 11-14 and noted in col. 12 line 57 to col. 15, line 9 is considered either equivalent or renders the claimed limitations obvious to one skilled in the art at the time of the invention in order to derive motion vector while performing a full search block matching using an accumulated absolute value of the difference approach as noted by Iwata.

5. Claims 21-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dastouri Mehrdad can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Gims S Philippe  
Primary Examiner  
Art Unit 2621

GSP

August 14, 2007